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The Promise and Peril of Oil Shale Development  
(February 5)

2010

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### SLIDES: Oil Shale Water Needs, State Water Planning and the Colorado River Compact

Daniel R. Birch

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# Oil Shale Water Needs, State Water Planning and the Colorado River Compact

Natural Resources Law Center

University of Colorado Law School at Boulder

“The Promise & Peril of Oil Shale”

Denver, CO

February 5, 2010

Daniel R. Birch

Deputy General Manager

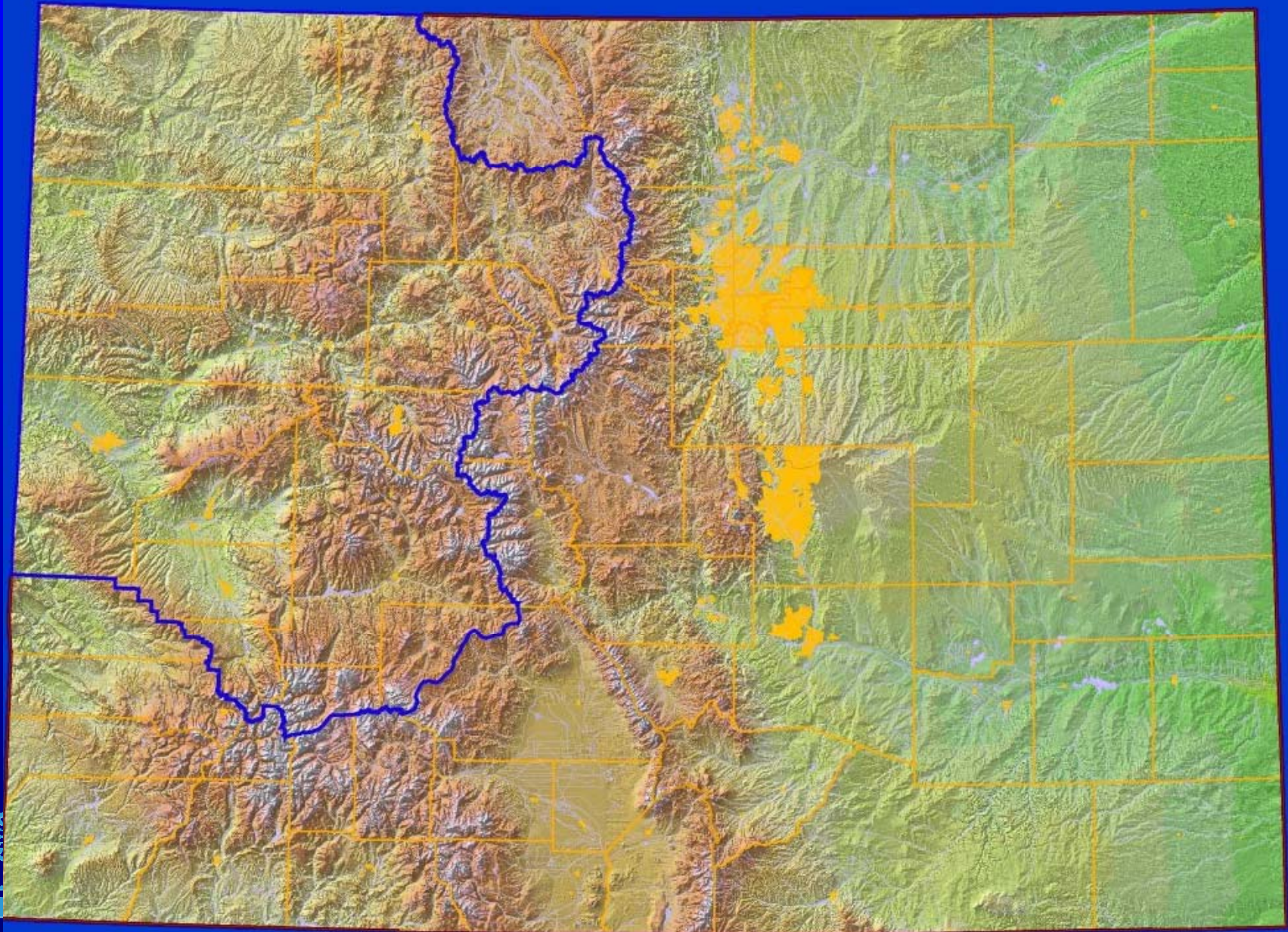
**Colorado River District**

*Protecting Western Colorado Water Since 1937*





# Colorado River District







# Colorado River District

*Protecting Western Colorado Water Since 1937*



# **River District Role and Caveats**

- **Neither proponent or opponent of oil shale**
- **Want to promote sound water planning**
- **Want to ensure oil shale water demands are considered in statewide planning efforts**

# Water for the 21<sup>st</sup> Century Act

NOTE: This bill has been prepared for the signature of the appropriate legislative officers and the Governor. To determine whether the Governor has signed the bill or taken other action on it, please consult the legislative status sheet, the legislative history, or the Session Laws.

## An Act

HOUSE BILL 05-1177

BY REPRESENTATIVE(S) Penry, Buescher, Decker, Liston, Massey, White, Berens, Clapp, Crane, Gallegos, Hall, Hoppe, Jahn, Kerr, Knoedler, Paccione, Rose, Stafford, Stengel, Sullivan, Romanoff, Boyd, Brophy, Coleman, Frangas, Harvey, King, Madden, May M., McCluskey, Merrifield, and Todd;  
also SENATOR(S) Isgar, Tapia, Taylor, Entz, Grossman, Kester, Fitz-Gerald, Groff, Teck, and Tupa.

CONCERNING THE NEGOTIATION OF INTERBASIN COMPACTS REGARDING THE  
EQUITABLE DIVISION OF THE STATE'S WATERS, AND MAKING AN  
APPROPRIATION IN CONNECTION THEREWITH.

*Be it enacted by the General Assembly of the State of Colorado:*

**SECTION 1.** Title 37, Colorado Revised Statutes, is amended BY  
THE ADDITION OF A NEW ARTICLE to read:

### **ARTICLE 75 Interbasin Compacts**

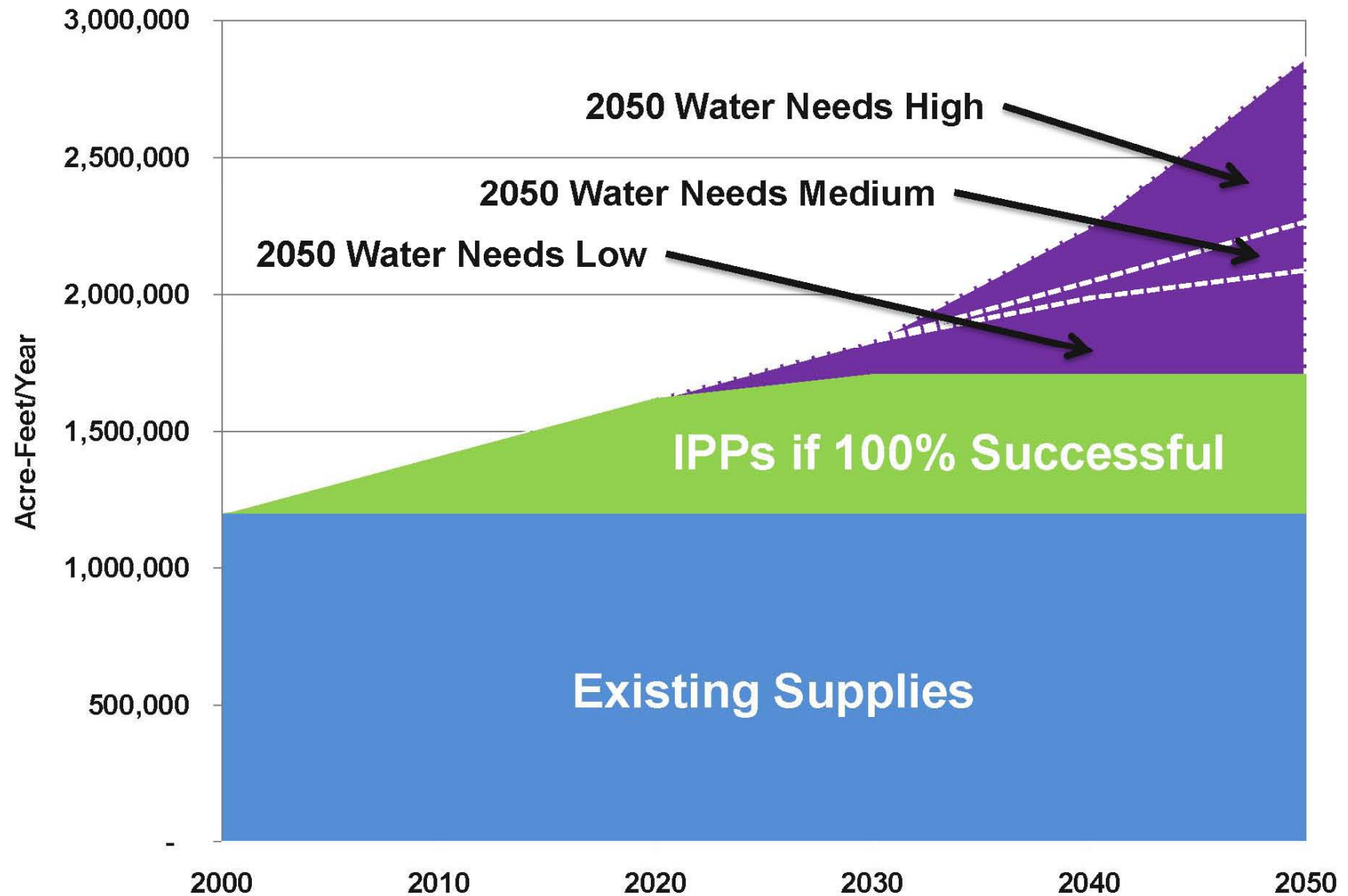
**37-75-101. Short title.** THIS ARTICLE SHALL BE KNOWN AND MAY  
BE CITED AS THE "COLORADO WATER FOR THE 21ST CENTURY ACT".

*Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.*

# **HB05-1177**

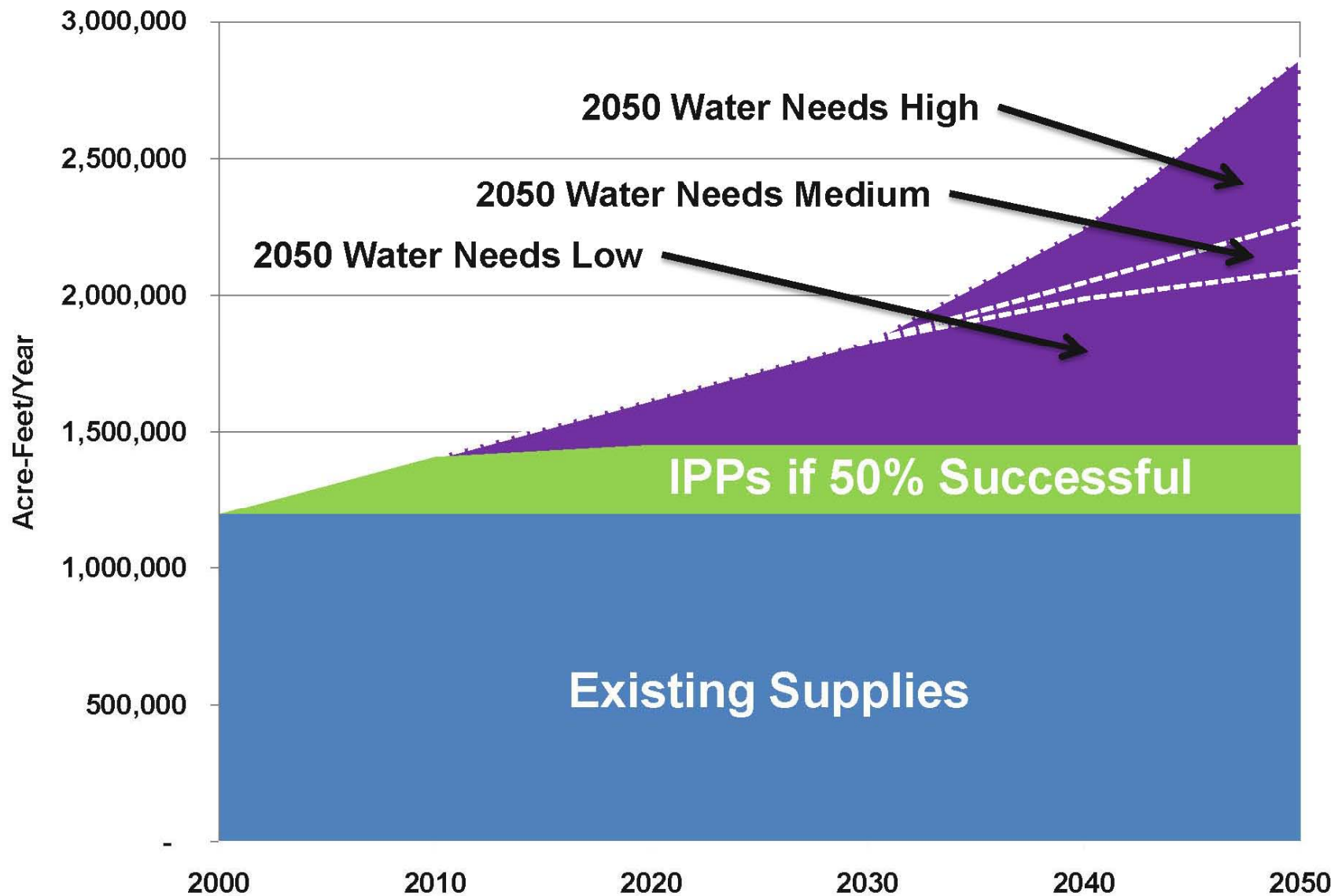
- **Created Basin Roundtables**
- **Basin Roundtables charged with completing water needs assessments**
- **Also created IBCC**
- **IBCC working on identifying portfolios to meet “Gap”**

## Colorado's Future M&I Water Needs

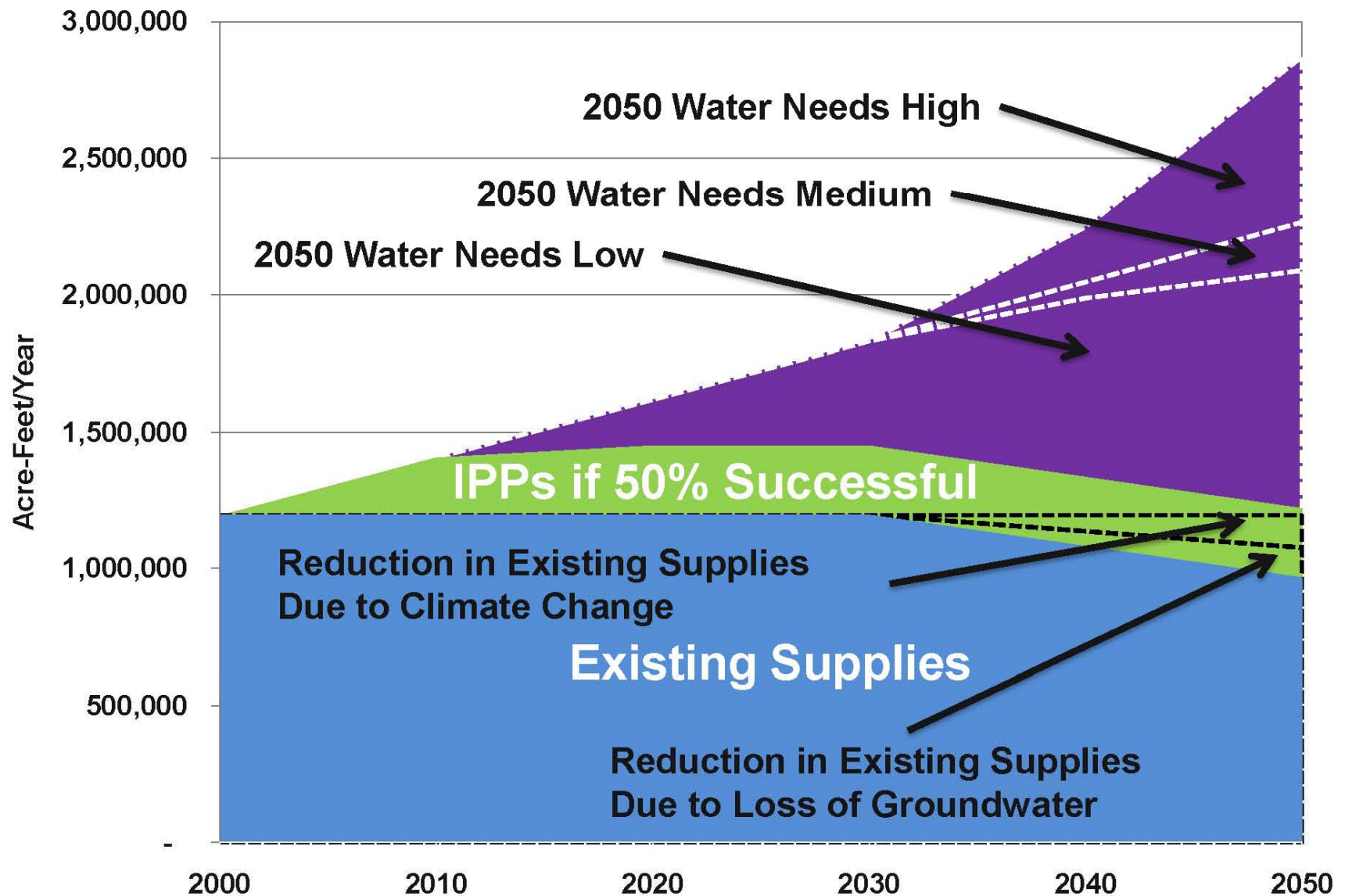




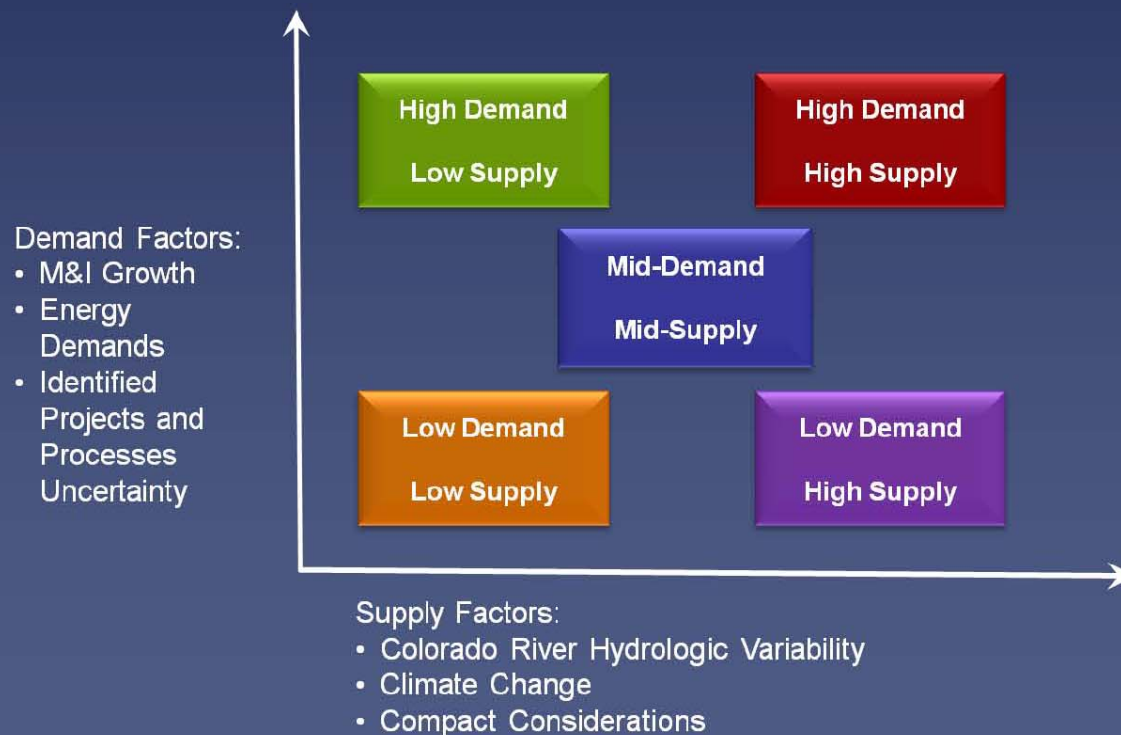
## Colorado's Future M&I Water Needs



## Colorado's Future M&I Water Needs



*Scenarios* – Different future conditions. Each scenario represents a different, but plausible, representation of circumstances that would result in differing statewide consumptive and nonconsumptive water demand and water supply. The IBCC is considering 5 different scenarios.





*Portfolios* – Combinations of strategies which collectively meet statewide water demands. Portfolios can be developed for each future scenario.

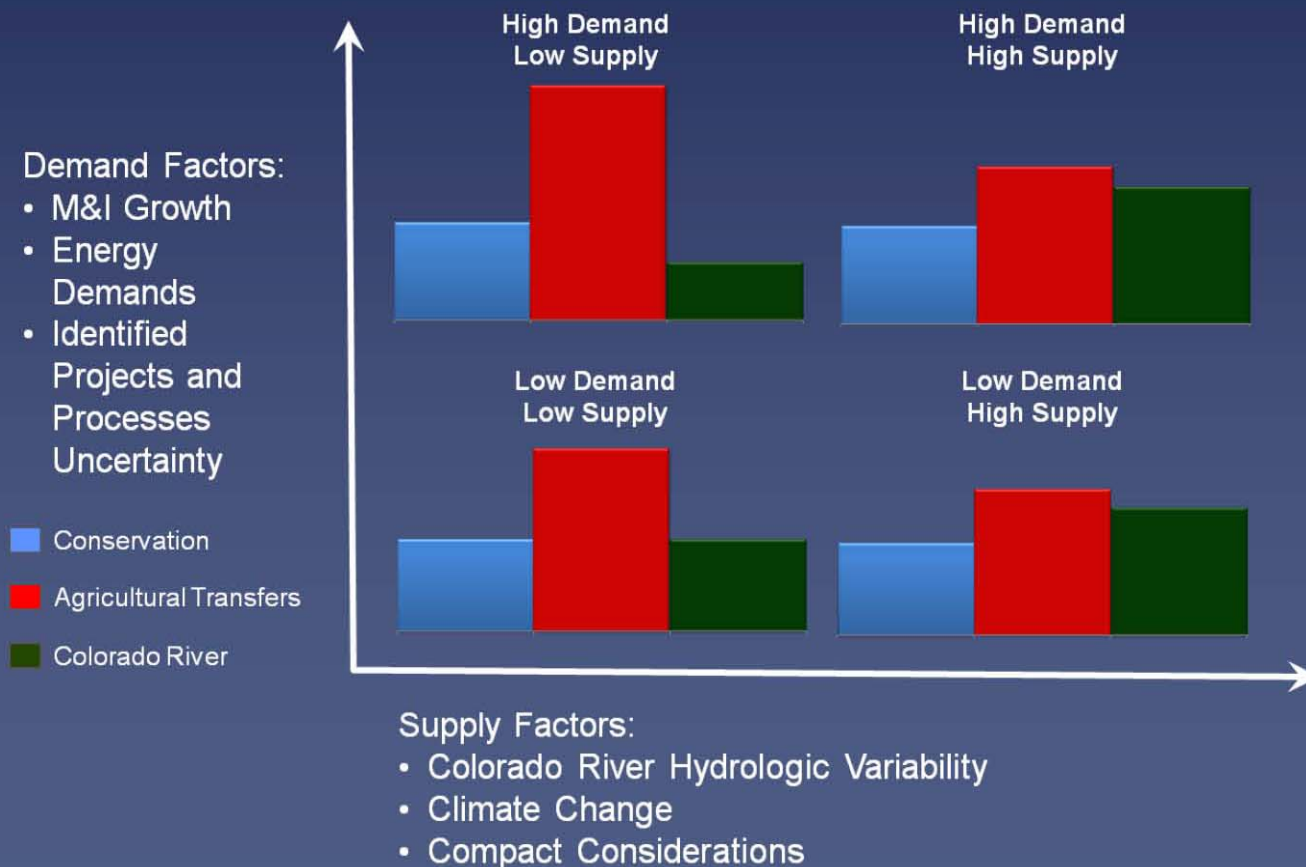
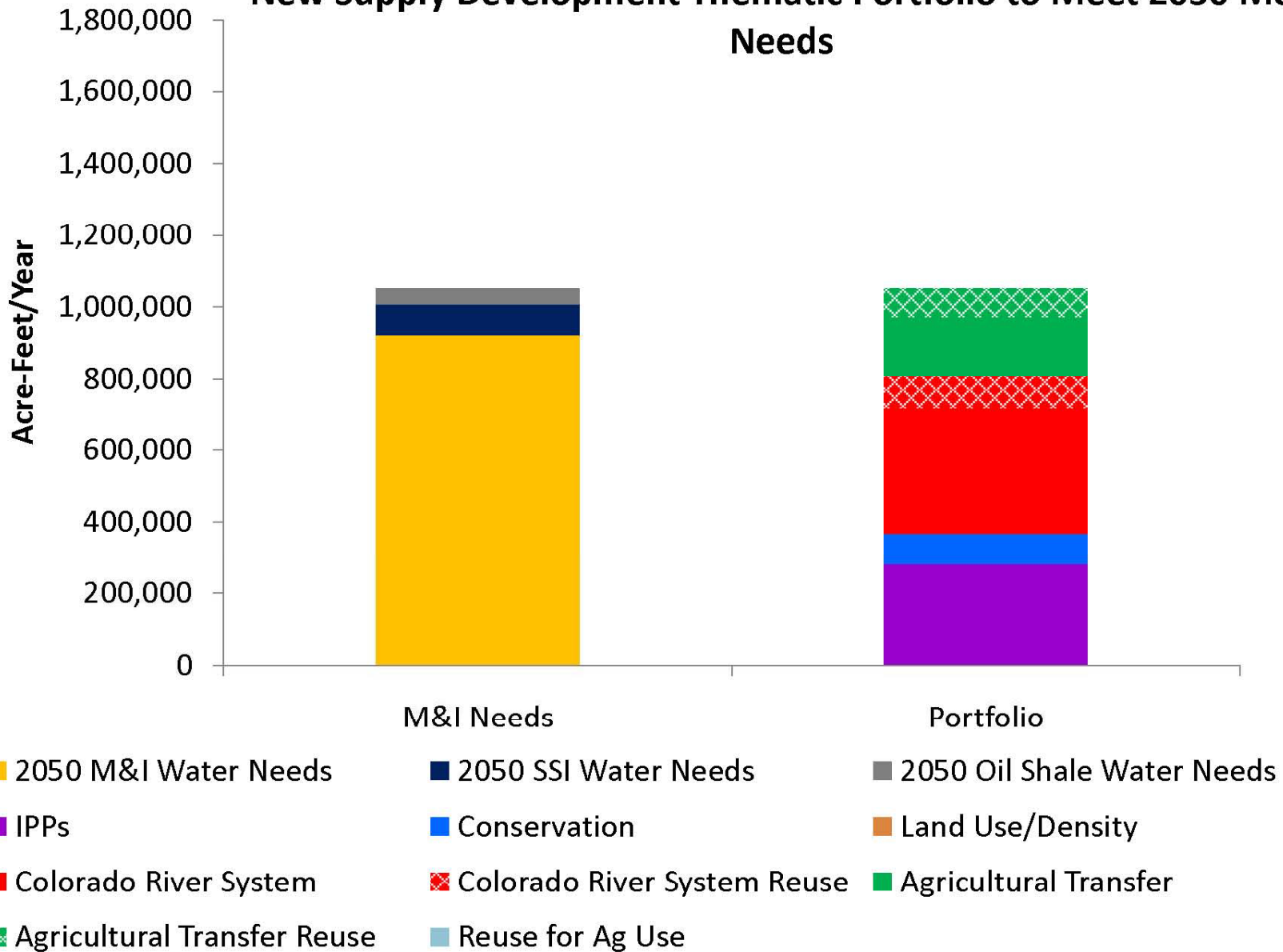


Table 4. New Water Supply Development Thematic Portfolio

| M&I Needs                                     | Statewide      | West Slope     | East Slope                              | North Platte/<br>Rio Grande |
|---|----------------|----------------|---|-----------------------------|
| M&I Water Needs (AFY)                         | 922,800        | 203,100        | 708,500                                 | 11,200                      |
| SSI Water Needs (AFY)                         | 84,400         | 45,300         | 39,100                                  | 0                           |
| Oil Shale Water Needs (AFY)                   | 43,700         | 43,700         | 0                                       | 0                           |
| Total M&I Needs (AFY)                         | 1,050,900      | 292,100        | 747,600                                 | 11,200                      |
| <b>Strategies</b>                             |                |                |   |                             |
| IPPs (AFY)                                    | 281,000        | 94,800         | 182,300                                 | 3,900                       |
| Conservation (AFY)                            | 85,400         | 34,100         | 49,000                                  | 2,300                       |
| New Supply Development (AFY)                  | 350,000        | 163,200        | 186,800                                 | 0                           |
| Reuse (AFY)                                   | 93,400         | 0              | 93,400                                  | 0                           |
| <i>New Supply Development Sub-Total (AFY)</i> | <i>443,400</i> | <i>163,200</i> | <i>280,200</i>                          | <i>0</i>                    |
| Ag Transfer (AFY)                             | 162,400        | 0              | 157,400                                 | 5,000                       |
| Reuse (AFY)                                   | 78,700         | 0              | 78,700                                  | 0                           |
| <i>Ag Transfer Sub-Total (AFY)</i>            | <i>241,100</i> | <i>0</i>       | <i>236,100</i>                          | <i>5,000</i>                |
|   |                |                |   |                             |
| Reduction in Irrigated Acres (percent)        | 12%            | 4%             | 23%                                     | 1%                          |
|   |                |                | 16% Arkansas<br>25% South Platte        |                             |
| Reduction in Irrigated Acres (acres)          | 309,400        | 38,667         | 264,000                                 | 6,700                       |
|   |                |                | 51,600 Arkansas<br>212,400 South Platte |                             |
|   |                |                |   |                             |

## New Supply Development Thematic Portfolio to Meet 2050 M&I Needs

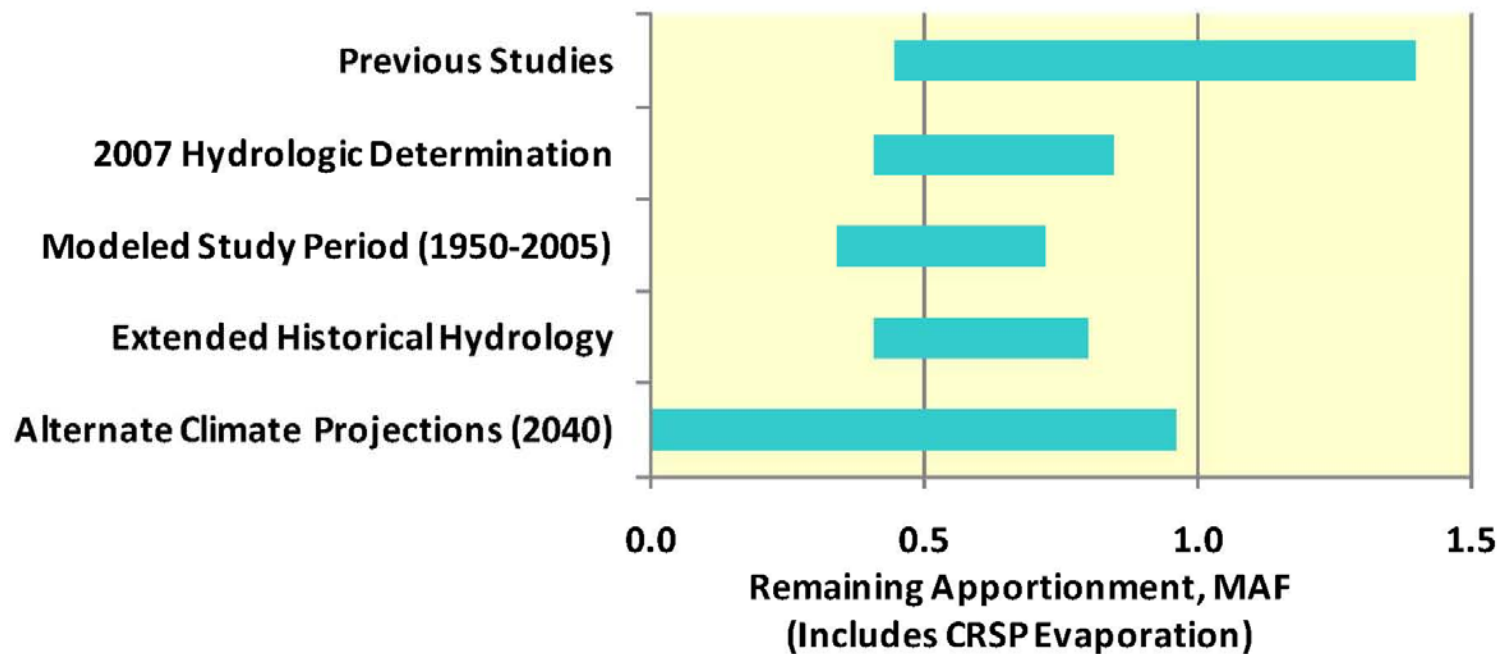




# Compact Analysis: Results



## Colorado's Remaining Apportionment



# Final Thoughts

**Who the heck knows what will happen with oil shale? But if it goes, it may go big.**

**If industry is not able to either perfect existing conditional water rights or appropriate new water rights, it will look to convert existing uses of water, most likely agricultural water.**

**There may not be enough water to satisfy a significant oil shale industry and/or a large TMD.**



Questions/Comments?



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